

WHAT IS CLAIMED IS:

1 1. A process for producing a magnetic anastomotic component suitable
2 for implantation in a patient's body, the process comprising steps of:
3 forming an anastomotic component having a desired configuration from a
4 material capable of producing a magnetic field, the anastomotic component having an exterior
5 surface;
6 processing the anastomotic component to make the exterior surface suitable
7 for receiving a layer of biocompatible material; and
8 providing the exterior surface of the anastomotic component with a layer of
9 biocompatible material.

1 2. The process of claim 1 wherein the processing step is performed to
2 make the exterior surface of the component substantially smooth.

1 3. The process of claim 2 wherein the processing step comprises
2 removing unwanted material from the exterior surface of the component by abrasive
3 microblasting.

1 4. The process of claim 3 wherein the processing step comprises placing
2 the component in a mechanically abrasive environment.

1 5. The process of claim 2 wherein the processing step comprises grinding
2 the exterior surface of the component.

1 6. The process of claim 2 wherein the processing step comprises acid
2 etching the exterior surface of the component.

1 7. The process of claim 1 wherein the providing step comprises disposing
2 a layer of biocompatible material over another layer of material that covers the exterior
3 surface of the anastomotic component.

1 8. The process of claim 7 wherein the layer of biocompatible material is
2 Gold and the other layer of material is Gold or Nickel.

1 9. The process of claim 1, further comprising electropolishing the
2 component after placing a final layer of material thereon.

1 10. The process of claim 1 wherein the component has an overall thickness
2 within the range of from about 0.010 to about 0.030 inch, and the biocompatible layer has a
3 thickness within the range of from about 0.0002 to about 0.0020 inch.

1 11. The process of claim 1 wherein the component is formed from NeoFeB
2 and a layer of biocompatible material is placed over the NeoFeB.

1 12. The process of claim 1 wherein a portion of the exterior surface is
2 formed with means for enhancing engagement between the component and the tissue of a
3 vessel.

1 13. The process of claim 1 wherein the forming step forms a component
2 comprised entirely of a material capable of producing a magnetic field.

1 14. The process of claim 1 wherein the forming step forms a component
2 having a first configuration and the processing step changes the component to a second
3 configuration having structural differences from the first configuration.

1 15. The process of claim 1 wherein the providing step comprises plating
2 the exterior surface of the component.

1 16. The process of claim 15 wherein the exterior surface of the component
2 is plated more than once.

1 17. The process of claim 1 wherein further comprising assembling the
2 anastomotic component is assembled with a delivery device for packaging and sterilization.

1 18. The process of claim 1 wherein the anastomotic component is
2 packaged and sterilized after the providing step.

1 19. The process of claim 18 wherein the component is magnetized either
2 before or after being packaged and sterilized.

1 20. A process for producing a magnetic anastomotic component suitable
2 for implantation in a patient's body, the process comprising steps of:
3 forming an anastomotic component having a desired configuration from a

4 material capable of producing a magnetic field;
5 packaging the component;
6 sterilizing the component; and
7 magnetizing the component in the package.

1 21. The process of claim 20 wherein the anastomotic component is
2 packaged, magnetized and then sterilized.

1 22. The process of claim 21 wherein the component is packaged, sterilized
2 and then magnetized.

1 23. The process of claim 22 wherein the component is sterilized by gas.

1 24. The process of claim 21 wherein the packaging step comprises
2 including a plurality of magnetic anastomotic components as part of a kit.

1 25. The process of claim 24 wherein the packaging step further comprises
2 including at least one delivery device in the kit.

1 26. The process of claim 20 further comprising microblasting or acid-
2 etching an exterior surface of the component to remove unwanted material, and then coating
3 the compatible with a layer of biocompatible material prior to the packaging step.

1 27. A process for producing a magnetic anastomotic component suitable
2 for implantation in a patient's body, the process comprising steps of:
3 providing an anastomotic component having an ability to produce a magnetic
4 field, the component having an exterior surface;
5 placing a layer of material on a first portion of the exterior surface of the
6 component so as to leave a second portion of the exterior surface of the component uncovered
7 by the material; and
8 magnetizing the component.

1 28. The process of claim 27 wherein the material placed on the first portion
2 of the exterior is paramagnetic.

1 29. The process of claim 28 wherein the second portion of the exterior
2 surface of the component defines an area of concentrated magnetic flux.

1 30. The process of claim 29 further comprising placing a layer of different
2 material over the exterior surface of the component.

1 31. The process of claim 30 wherein the different material has diamagnetic
2 properties.

1 32. The process of claim 29 wherein the second portion of the component
2 defines a continuous area of concentrated flux.

1 33. A process for producing a magnetic anastomotic component suitable
2 for implantation in a patient's body, the process comprising steps of:
3 forming an anastomotic component having a desired configuration from a
4 material capable of producing a magnetic field, the component having an exterior surface;
5 subjecting the component to an acid etching process to remove surface
6 irregularities; and
7 providing the exterior surface of the component with a layer of biocompatible
8 material.

1 34. The process of claim 33 wherein the subjecting step is performed by
2 placing the component in a solution containing phosphoric acid.

1 35. The process of claim 34 wherein the component is placed in the
2 phosphoric acid solution for an amount of time within the range of from about 5 minutes to
3 about 15 minutes.

1 36. The process of claim 34 further comprising subjecting the solution to
2 electric potential after the acid etching step

1 37. The process of claim 33 further comprising providing at least a portion
2 of the exterior surface of the component with traction structure for enhancing engagement
3 between the component and the tissue of a vessel.

1 38. The process of claim 37 wherein the traction structure comprises a
2 surface of the component provided with adhesive.

